3. SPECIES OF WATERBIRDS AND THEIR CONSERVATION STATUS IN THE UMVGL REGION

3.a Waterbird occurrence, by season, in the UMVGL Region and importance of UMVGL in the continental context.

The UMVGL Region provides a variety of waterbird nesting, roosting and foraging habitats and is used by a total of 46 species that regularly occur during some portion of the year (Table 3.1). These include loons, grebes, pelicans, cormorants, herons, night-herons, egrets, bitterns, rails, moorhens, coots, cranes, gulls and terns (Regular use is defined here as breeding and/or wintering in a BCR in any numbers at least 3 out of 10 years and/or occurring during migration in manageable numbers (>100 birds) at least 3 out of 10 years). An additional 21waterbird species occur occasionally (present in the Region during at least two of the last ten years) or accidentally (present in the Region fewer than two of the last ten years) (Table 3.2). Species in these latter two categories occur so infrequently or in such small numbers (10-100 birds) that they are not manageable. They are listed to acknowledge that they occur in the planning Region and their numbers or distribution in the Region could increase in the future due to range expansions.

In a continental context, the Region is extremely important for many waterbird species. During the summer months, an estimated 80 - 94% of the global population of Ring-billed Gulls and possibly as much as 60% of the continental population of Herring Gulls breed in the Region, mostly in the Great Lakes. More than 100,000 pairs (possibly as much as 28% of the global population) of Double-crested Cormorants also breed in the Region, again mostly in the Great Lakes. BCR 12 constitutes a core breeding area for Common Loon, with an estimated 22% of continental breeding pairs, mostly in Ontario; this BCR also constitutes a relatively important breeding area for Yellow Rail in the United States. Though the UMVGL Region has experienced major declines in wetland habitat over the last 200 years, relative to many other bird planning Regions, the northern portion of the

UMVGL Region still contains large amounts of wetlands. In Minnesota, Michigan, Wisconsin, southern Ontario and along the St. Lawrence River in Quebec, wetlands provide significant breeding habitat for many marshbird species, such as rails and marsh-nesting terns.

3.b Species conservation status assessment (prioritization) methodology for waterbirds in the UMVGL Region

Prioritizing waterbird species for conservation or management purposes is critically important because it assists resource managers and decision-makers in appropriately allocating limited human and financial resources. In 1991, Partners In Flight (PIF) began developing a Species Assessment Process to evaluate conservation status of each landbird species in North America (Partners in Flight 2001; http://www.rmbo.org/pif/pifdb.html). This process involved scoring six continental factors that reflect each species' vulnerability to population decline. The six factors are: relative abundance, population trend, breeding distribution, non-breeding distribution, threats to breeding populations, and threats to non-breeding populations. The NAWCP adapted the PIF species prioritization process to assess conservation status of waterbirds. Because the relative abundance factor score is based on Breeding Bird Survey data, the NAWCP did not use this factor in its conservation status assessment process (see Chapter 2 for discussion of limitations of BBS data for most waterbird species). Instead, the NAWCP used population size as a factor, based on population census and survey data collected locally and regionally across North America. The other five factors developed by PIF were used by the NAWCP. In both the PIF and the NAWCP processes, all continental factors are scored from 1 (most secure) to 5 (most vulnerable), and each species is then assigned a category of conservation concern based on these scores and the rules for assessing them (the categorization rules differ somewhat between PIF and NAWCP).

Because the NAWCP used the population size factor, the first version of the plan (NAWCP 2002) assessed conservation status for colonial waterbirds only, and did not provide factor scores for

non-colonials. However, factor scores and continental-scale concern categories provide a starting point for adjusting and verifying conservation assessments for each species at the BCR level. Therefore, we used PIF draft factor scores (http://www.rmbo.org/pif/pifdb.html; Version 1.1) and expert opinion to assess conservation concern category for non-colonial waterbirds at the BCR level in the UMVGL Region. Table 3.3 shows factor scores for all regularly occurring waterbird species in the UMVGL Region, based on the scores provided in the NAWCP and by PIF.

For the species for which they were available, continental concern categories were considered in light of Area Importance (AI) scores for each species in each BCR. AI scores were based on regional (BCR) population size and contribution to the total North American population. The proportion of the continental breeding population found within each BCR was converted to an AI score of 1 - 5 using the following criteria:

5: >50% of North American breeding population occurs in the BCR

4: 25-49% of North American breeding population occurs in the BCR

3: 10-24% of North American breeding population occurs in the BCR

2: 1-9% of North American breeding population occurs in the BCR

1: <1% of North American breeding population occurs in the BCR

AI scores were used to either "demote" a species that occurs marginally in a BCR, or to "promote" a species whose presence in the BCR is important to the overall persistence of the species. Species receiving an AI score of 5 were raised one level above the continental concern category (e.g., from Moderate to High concern) because of the importance of the BCR to continental conservation of that species. For some species, the continental population also represents the global population, thereby increasing the importance of regional conservation efforts. Species receiving an AI score of 1 were lowered by one or more concern categories following review by regional experts to reflect the minimal effect that conservation activities within the BCR would have on the species

continentally. Species receiving AI scores of 2, 3, or 4 were given a BCR conservation concern category that was the same as their continental concern category unless expert opinion dictated otherwise.

For some species, we were unable to generate AI scores, either because the size of the North American breeding population was not known, or the % of a species' population that occurs in a BCR was not known. In those instances, we relied on expert opinion, factor scores and other information (such as presence on Federal, state, or provincial species of concern lists) to assess conservation status at the BCR level. Similarly, when continental concern category was not known, we relied on expert opinion, factor scores, area importance scores if available, and other information (such as presence on Federal, state, or provincial species of concern lists) to assess conservation concern category status at the BCR level.

Using this process, species in the UMVGL Region were classified into one of five conservation concern categories as follows:

Highly Imperiled: Federally listed (Canadian or U.S.) as endangered or threatened species, and a factor score of five in relative abundance / population size, population trend or breeding distribution.

High Concern: Not Highly Imperiled, but populations are known or thought to be declining substantially and have some other known or potential threat as well.

Moderate Concern: Not Highly Imperiled or of High Concern, but populations are (a) declining with moderate threats or distributions; (b) stable with known or potential threats and moderate to restricted distributions; or (c) relatively small with relatively restricted distributions.

Low Concern: Not Highly Imperiled, High Concern or Moderate Concern, but populations are (a) stable with moderate threats and distributions; (b) increasing but with known or potential

threats and moderate to restricted distributions; or (c) of moderate size with known or potential threats and moderate to restricted distributions.

Not currently at Risk: All other species for which information was available.

In most cases, the management priority for a species is based on its population vulnerability. However, certain harvested species, as well as high conflict species whose populations are abundant and increasing, may be elevated in management priority even though their conservation vulnerability is low. For example, the Double-crested Cormorant and Ring-billed Gull are considered to be of low conservation concern, but are of high management concern because of their potential biological and socioeconomic impacts. Hunted species are also of management concern because of their recreational value and their potential to experience population declines. Additionally, a few species with low or moderate conservation vulnerabilities have large percentages of their continental or global populations in a particular BCR (e.g., Common Loon, Double-crested Cormorant, Ring-billed Gull); if these species are of concern in other Regions, the UMVGL BCRs with large populations have a stewardship responsibility for producing "source" populations to counteract "sinks" in other areas. Therefore, we also identified species that are management and stewardship priority.

3.c Species Conservation Assessment for BCRs in the UMVGL Region

Tables 3.4a and 3.4b list the conservation, management and stewardship priorities, by BCR, for all waterbirds that regularly breed in the UMVGL Region. Three species occur in the region that meet the criteria for Highly Imperiled priority status: King Rail, Whooping Crane and Interior Least Tern. Species that are of High conservation concern in at least one BCR in the UMVGL Region include the Red-necked Grebe; American Bittern; Black-crowned Night-Heron; Yellow-crowned Night-Heron; Yellow and Black, Rails; and Common and Black Terns. Species that are of stewardship concern in at least one BCR include the Common Loon, Double-crested Cormorant; American White Pelican and Ring-billed Gull. Species of management concern in at least one BCR

include the Double-crested Cormorant and Ring-billed Gull because of biological and socioeconomic conflicts, and Virginia and Sora Rails, Common Moorhen, American Coot, and Sandhill Crane because they are hunted. The conservation status of birds that occur only as migrants or that only winter in the Region should be assessed in a future supplement to this plan as additional information becomes available on waterbirds in the non-breeding seasons.

3.d Population abundance and trends

Data on populations of waterbird species in the UMVGL Region were obtained through several sources. A questionnaire was developed to obtain population estimates during the breeding season for each waterbird species within each state and province overlapped by UMVGL's BCRs. Responses to the questionnaire were limited, either because respondents could not take the time to compile the needed information or it was simply not available. For colonial waterbirds breeding in the Great Lakes, we used census data obtained during the decadal census effort (Cuthbert et al., 2003; Weseloh et al. 2003). All available population estimates are included in the species profiles in Appendix A.

3.e Population objectives

The vision of the NAWCP is "that the distribution, diversity, and abundance of populations and habitats of breeding, migratory and nonbreeding waterbirds are sustained or restored throughout the lands and waters of North America, Central America, and the Caribbean." As an important measurable step towards sustaining and /or restoring waterbird populations, most of the regional waterbird conservation initiatives have committed to setting population and/or habitat objectives of some kind. The challenge in setting regional waterbird objectives is to ensure that they contribute rationally to this overarching vision. Ideally, managers should have accurate information on the current status of each species and know what abundance, distribution, and habitat attributes would constitute self-sustaining populations of waterbirds. Unfortunately, this information is incomplete for most waterbird species occurring in the UMVGL Region. In the absence of population data, a

reasonable alternative is to adopt a "place-holder" strategy, accepting that complete knowledge is not prerequisite for the development of conservation strategies, and that best-available information may be sufficient to set meaningful objectives that can be re-evaluated through an adaptive management process as information improves.

Partners in Flight is currently developing a process for stepping down continental population objectives for landbirds, based primarily on trends and population estimates derived from Breeding Bird Survey data, to smaller geographic units, such as the UMVGL Region or BCRs, states, or provinces within the UMVGL Region. However, such an approach is not considered feasible or appropriate for waterbird species. Regional waterbird planning efforts are therefore developing alternatives for establishing population objectives based on best local information. Though efforts thus far have been variable, Regions that have developed population objectives for most species have done so based largely on population trends over some pre-defined time period.

In the UMVGL Region, our approach was to review information on historic and current abundance and distribution of each species within each BCR and estimate "benchmark" populations, which we define in two ways: a) abundances and distributions that are thought to be representative of populations in stable habitats or under relatively natural conditions (e.g., conditions less altered by such human actions as the millinery trade, egg collecting, other direct persecution, pesticides, habitat destruction, and landscape changes); or b) abundances and distributions that existed before well-known declines or increases occurred. Comparison of current to benchmark populations provided a guideline for setting species population objectives. For some species, population targets may be the benchmark population itself, while for others something between the current and benchmark population may have to be targeted based on the number of individuals existing habitat can support and the feasibility of restoring additional habitat. To use benchmarks as a guideline, the following data are needed:

1) Current Population Estimates. For each waterbird species in the UMVGL region, we compiled current (1990s-2003) BCR-level population estimates (focusing on breeding populations; Appendix A) through review of the literature and survey data, communication with partners, and expert opinion. The best data are available for colonial waterbirds breeding in the Great Lakes portion of the UMVGL region. Data are almost entirely lacking for most waterbirds during the nonbreeding seasons, and we have very little regional information on breeding marshbirds, although some population indices and trends are available for the Great Lakes through Bird Studies Canada's Marsh Monitoring Program (Weeber and Vallianatos 2000). For species without current population estimates, our placeholder strategy was to designate as a priority the development and implementation of surveys and monitoring programs to address our data deficiencies, including establishing baseline population levels.

2) Historic / Other "Benchmark" Population Estimates. For many UMVGL waterbird species, pre-1900 distribution and abundance are thought to be representative of benchmark populations (Table 3.5). Though historic information (pre-1900) is limited and varies from species to species, review of the literature indicated that for some species there are enough records to qualitatively determine population changes that occurred during and after European settlement and throughout the 20th century. Thus, with this type of data, a "place-holder" strategy for the UMVGL Region was to estimate, as a benchmark and possible target, species-specific population levels under historic (pre-1900) conditions. For those species with limited historic data, the strategy was to review data compiled in the 1900s and determine if and when significant population changes occurred; for many species, benchmarks derived this way fell between 1940s-1960s (Table 3.5). Another potential strategy is to review trends reported by the BBS; however, as noted in chapter 2, BBS data may not be appropriate for most waterbird species. The BBS database does provide a "regional credibility measure" based on factors that affect the reliability of the data. For waterbird species that are not well-surveyed, use of

BBS data with moderate to high credibility measure may provide a starting point. BBS data for American Bittern, Virginia Rail, Sora, Common Moorhen and American Coot were used to help assess trends over the last 30 years, and to justify objectives developed for American Bittern (Tables 3.5 – 3.10).

For species with current populations estimated to be similar in status to benchmark levels, or with current populations that are abundant and have distributions similar to their historic ones, the objective is to maintain (within natural variability) current abundance and distribution. For species with populations estimated to be more restricted in distribution and/or lower in abundance today than historically, the objective is to restore to benchmark numbers and/or distribution; if restoration to benchmark populations is not feasible within the foreseeable future due to lack of habitat, the objective is to not allow the population to drop below a threshold of viability, as determined by expert opinion or demographic modeling. For species with populations estimated to be greater than benchmark levels, the default objective will be to allow the populations to self-regulate with no human intervention. However, if an increasing species' current abundance is causing localized and documented negative biological or socioeconomic impacts, we recommend that objective-setting be done at a local level, where managers use management plans and approved strategies to develop and achieve site-specific population objectives. In the case of harvested species, population management will be done through the Mississippi and Central Flyway Councils in a way that allows for a sustainable harvest.

There are many species for which we cannot confidently estimate benchmark or current population levels. Nevertheless, based on rates of wetland loss and review of historic records, we know they have declined and are habitat limited (e.g., marshbirds). To set objectives for these species we recommend using information on wetland loss rates from a benchmark period as a guideline, as there is some information available on trends in wetland loss over the last 200 years. As an example,

if King Rail habitat losses from a desired benchmark period (say 1900) are estimated at 50%, the objective could be to increase the amount of habitat available through restoration or enhancement by as much as 100% to reach the benchmark level. Information on the species, habitat preferences, and area requirements can be used to identify sites and determine whether this strategy will work for King Rail considering the quality of new and or restored wetlands. Habitat increases should be targeted in both historic and current portions of the species range, with emphasis on conserving and enhancing critical extant habitat to protect and increase current populations. While the feasibility of increasing habitat for King Rails by as much as 100% may be limited in the near future, this objective is based on documented habitat losses. It provides guidance for establishing a first cut at a King Rail population objective and justification for increasing the amount of King Rail habitat. As more data become available through monitoring and habitat assessment, the objective can be refined.

Species for which population objectives were set. Population objectives were set mainly for High and Moderate Conservation Concern species that breed in the UMVGL Region. However, objectives were set for a few species that are Low Conservation Concern or Not at Risk either because these species are management or stewardship priorities, or because of substantial population declines or concerns (Tables 3.6-3.10). Additionally some species occur in relatively low abundance as breeders in the Region but are relatively more abundant as migrants. Because these species occur as breeders we were able to assess conservation priorities for them; however, objectives were aimed at their occurrence during migration (e.g., Horned Grebe, Red-necked Grebe). All objectives are conservation targets, but a species conservation concern level should guide the priority of these recommendations.

Table 3.1. Degree of coloniality, seasonal occurrence, and relative abundance of regularly-occurring waterbirds in the Upper Mississippi Valley/Great Lakes Region by Bird Conservation Region.[1]

English Name	*Scientific Name*	*Species Code*	*Colonial [C]; Non-colonial [N]* [2]	*Bird Conservation Region* [3, 4, 5]				
				12	*13*	*22*	*23*	*24*
Red-throated Loon	*Gavia stellata*	RTLO	N	M	w M	m	m	*m*?
Common Loon	*Gavia immer*	COLO	N	**B**	b w **M**	M	B **M**	w m
Pied-billed Grebe	*Podilymbus podiceps*	PBGR	N	B	B w	B w	**B**	b W
Horned Grebe	*Podiceps auritus*	HOGR	N/C	b M	M	w M	M	w m
Red-necked Grebe	*Podiceps grisegena*	RNGR	N/C	B M	b w M	m	B m	--
Eared Grebe	*Podiceps nigricollis*	EAGR	C/N	b	--	m	b	--
Western Grebe	*Aechmophorus occidentalis*	WEGR	C	b	--	m	b m	m
American White Pelican	*Pelecanus erythrorhynchos*	AWPE	C	b m	--	w m	b m	w m
Double-crested Cormorant	*Phalacrocorax auritus*	DCCO	C	**B**	**B**	B w **M**	B w M	b w m
American Bittern	*Botaurus lentiginosus*	AMBI	N	*b*	*b*	*b m*	*b*	*b m*
Least Bittern	*Ixobrychus exilis*	LEBI	N/C	*b*	*b*	*b m*	*b m*	*b m*
Great Blue Heron	*Ardea herodias*	GBHE	C	*b*	*b w*	*b w*	*b w*	*b w*
Great Egret	*Ardea alba*	GREG	C	b m	b m	B m	b m	b m w
Snowy Egret	*Egretta thula*	SNEG	C	--	--	b m	b m	b m
Little Blue Heron	*Egretta caerulea*	LBHE	C	--	--	b m	b m	b m
Cattle Egret	*Bubulcus ibis*	CAEG	C	b m	b m	b m	b m	b m
Green Heron	*Butorides virescens*	GRHE	N/C	*b*	*b*	*b*	*b*	*b*
Black-crowned Night-Heron	*Nycticorax nycticorax*	BCNH	C	*b w*	*b w*	*b w*	*b w*	*b w*
Yellow-crowned Night-Heron	*Nyctanassa violacea*	YCNH	C	--	--	b m	b m	B m
Yellow Rail	*Coturnicops noveboracensis*	YERA	N	B	b m	m	B m	m
Black Rail	*Laterallus jamaicensis*	BLRA	N	?	?	b	b?, m	b?, m
King Rail	*Rallus elegans*	KIRA	N	b	B	B	b	b
Virginia Rail	*Rallus limicola*	VIRA	N	b	**B** *w*	**B** *m w*	**B** *m*	*w m*
Sora	*Porzana carolina*	SORA	N	**B**	**B**	**B** M	**B** *m*	b m
Purple Gallinule	*Porphyrula martinica*	PUGA	N	--	--	m	--	b
Common Moorhen	*Gallinula chloropus*	COMO	N	b *m*	B *m*	B *m*	B *m*	b *m*
American Coot	*Fulica americana*	AMCO	N	b *m*	B w m	B w	B *m*	b W
Sandhill Crane	*Grus canadensis*	SACR	N	**B**	b	b **M**	**B M**	M
Whooping Crane	*Grus americana*	WHCR	N	--	--	m	m	m
Parasitic Jaeger	*Stercorarius parasiticus*	PAJA	C/N	*m*	*m*	*m*	*m*	--
Franklin's Gull	*Larus pipixcan*	FRGU	C	*m*	*m*	*m*	*m*	*m*
Bonaparte's Gull	*Larus philadelphia*	BOGU	C	*m*	*w m*	*w m*	*w m*	*w m*
Ring-billed Gull	*Larus delawarensis*	RBGU	C	**B** *w*	**B** *w*	**B** *w m*	**B** *w*	*w m*
Herring Gull	*Larus argentatus*	HERG	C	**B** *w*	**B** *w*	b *w m*	b *w m*	*w m*
Great Black-backed Gull	*Larus marinus*	GBBG	C	b w	b w	w	w	--
Sabine's Gull	*Xema sabini*	SAGU	C	*m*	*m*	*m*	*m*	*m*
Thayer's Gull	*Larus thayeri*	THGU	C	w	w	w	w	--
Iceland Gull	*Larus glaucoides*	ICGU	C	w	w	w	w	--

English Name	***Scientific Name***	***Species Code***	***Colonial [C]; Non-colonial [N]*** [2]	***Bird Conservation Region*** [3, 4, 5]				
				12	***13***	***22***	***23***	***24***
Lesser Black-backed Gull	*Larus fuscus*	LBBG	C	--	w	w	--	--
Glaucous Gull	*Larus hyperboreus*	GLGU	C	w	w	w	w	
Little Gull	*Larus minutus*	LIGU	C	m	M, w	m	m	--
Caspian Tern	*Sterna caspia*	CATE	C	B *m*	B *m*	b	b *m*	*m*
Common Tern	*Sterna hirundo*	COTE	C	B	B	b *m*	b *m*	*m*
Forster's Tern	*Sterna forsteri*	FOTE	C	b *m*	b	b *m*	b *m*	*m*
Least Tern	*Sterna antillarum*	LETE	C/N	--	--	b?, m	b	b m
Black Tern	*Chlidonias niger*	BLTE	C	B	b	B *m*	b	*m*

1. Regularly occurring: breeds and/or winters in a BCR in any numbers at least 3 out of 10 years, and/or occurs during migration in manageable numbers (>100 birds) at least 3 out of 10 years.

2. Degree of coloniality varies, and if species demonstrates both solitary and colonial behavior, the most typical behavior is listed first.

3. Occurrence:

B or b = breeding, M or m = during migration, W or w = wintering, -- = does not occur, ? = occurrence unknown or uncertain

4. Relative Abundance

- **CAPS/bold (B,M,W)** = high concentrations, BCR is extremely important to the species relative to the majority of other BCRs
- CAPS (B,M,W) = common or locally abundant, BCR is important to the species
- lower case (b,m,w) = uncommon to fairly common, BCR is within species range but species occurs in low abundance relative to other BCRs
- *lower case italics (b,m,w)* = status as breeder, migrant or wintering bird is known but abundance relative to other BCRs is not known.

5. Bird Conservation Regions (BCRs):

- BCR 12 = Boreal Hardwood Transition
- BCR 13 = Lower Great Lakes/St. Lawrence Plain
- BCR 22 = Eastern Tallgrass Prairie
- BCR 23 = Prairie Hardwood Transition
- BCR 24 = Central Hardwoods

Table 3.2. Waterbird species that occured occasionally (≥ 2 of the last 10 years) or accidentally (present < 2 out of the last 10 years) in the Upper Mississippi Valley/Great Lakes Region, 1990-2000.

English name	Scientific name	Species Code	Occurrence[1]
Pacific Loon	*Gavia pacifica*	PALO	O
Northern Gannet	*Morus bassanus*	NOGA	O
Brown Pelican	*Pelecanus occidentalis*	BRPE	O
Magnificent Frigatebird	*Fregata magnificens*	MAFR	A
Tricolored Heron	*Egretta tricolor*	TRHE	O
White Ibis	*Eudocimus albus*	WHIB	O
Glossy Ibis	*Plegadus falcinellus*	GLIB	O
White-faced Ibis	*Plegadis chihi*	WFIB	O
Pomarine Jaeger	*Stercorarius pomarinus*	POJA	O
Long-tailed Jaeger	*Stercorarius longicaudus*	LTJA	A
Laughing Gull	*Larus atricilla*	LAGU	O
Black-headed Gull	*Larus ridibundus*	BHGU	O
Mew Gull	*Larus canus*	MEGU	A
California Gull	*Larus californicus*	CAGU	O
Black-legged Kittiwake	*Rissa tridactyla*	BLKI	O
Ross's Gull	*Rhodostethia rosea*	ROGU	A
Ivory Gull	*Pagophia eburnea*	IVGU	A
Sandwich Tern	*Sterna sandvicensis*	SATE	A
Arctic Tern	*Sterna paradisea*	ARTE	O
Thick-billed Murre	*Uria lomvia*	TBMU	A
Razorbill	*Alca torda*	RABI	A

1. O = occasional (≥ 2 of the last 10 years); A = accidental (present < 2 out of the last 10 years).

Table 3.3. Species conservation assessment factor scores and priority rankings for waterbirds that regularly occur in the Upper Mississippi Valley / Great Lakes Region.

English Name	RA[1]	PS[2]	PT[3]	BD[4]	ND[5]	TB[6]	TN[7]	Continental Concern
Red-throated Loon	2		3	2	2	4	4	*Not assessed by NAWCP*
Common Loon	3		1	1	2	3	3	*Not assessed by NAWCP*
Pied-billed Grebe	3		2	1	1	3	2	*Not assessed by NAWCP*
Horned Grebe	4		5	3	1	4	3	*Not assessed by NAWCP*
Red-necked Grebe	2		2	1	2	3	3	*Not assessed by NAWCP*
Eared Grebe		3	1	2	4	2	3	*Moderate*
Western Grebe		3	2	4	4	3	3	*Moderate*
American White Pelican		3	2	4	3	2	2	*Moderate*
Double-crested Cormorant		1	2	2	2	2	2	*Not currently at Risk*
American Bittern	3		4	1	2	3	3	*Not assessed by NAWCP*
Least Bittern	3		3	1	2	3	3	*Not assessed by NAWCP*
Great Blue Heron		1	2	2	2	2	3	*Not currently at Risk*
Great Egret		1	2	2	2	?	?	*Not currently at Risk*
Snowy Egret		4	2	4	3	3	4	*High*
Little Blue Heron		4	2	4	4	?	?	*High*
Cattle Egret		2	1	2	2	3	3	*Not currently at Risk*
Green Heron		2	3	2	3	2	4	*Low*
Black-crowned Night-Heron		4	3	3	3	2	3	*Moderate*
Yellow-crowned Night-Heron		3	?	2	3	3	5	*Moderate*
Yellow Rail	5		3	3	5	3	4	*Not assessed by NAWCP*
Black Rail	5		4	4	4	4	4	*Not assessed by NAWCP*
King Rail	4		5	3	4	4	3	*Not assessed by NAWCP*
Virginia Rail	4		1	1	2	3	2	*Not assessed by NAWCP*
Sora	3		2	1	1	3	2	*Not assessed by NAWCP*
Common Moorhen	2		2	1	1	3	2	*Not assessed by NAWCP*
Purple Gallinule	4		4	1	1	3	2	*Not assessed by NAWCP*
American Coot	3		2	1	1	3	2	*Not assessed by NAWCP*
Sandhill Crane	4		1	2	4	3	3	*Not assessed by NAWCP*
Whooping Crane (E. Pop)	5		2	5	5	4	4	*Not assessed by NAWCP*
Parasitic Jaeger		3	3	3	2	1	1	*Low*
Franklin's Gull		3	1 or 2	4	3	2	2	*Moderate*
Little Gull		4	5	3	1	5	4	*High*
Bonaparte's Gull		?	3	3	3	1	2	*Moderate*
Ring-billed Gull		1	1	1	1	2	2	*Not currently at Risk*
Herring Gull		3	2	3	2	1	1	*Low*
Thayer's Gull		3	3	3	5	3	2	*Moderate*
Iceland Gull		3	2	3	3	3	2	*Low*
Lesser Black-backed Gull		3	4 or 5	na[8]	3	na	3	*Moderate*
Glaucous Gull		3	2	1	1	1	1	*Not currently at Risk*
Great Black-backed Gull		2	2	2	2	3	2	*Not currently at Risk*
Sabine's Gull		2	2	2	4	2	1	*Low*

English Name	RA[1]	PS[2]	PT[3]	BD[4]	ND[5]	TB[6]	TN[7]	Continental Concern
Caspian Tern		2	3	4	2	2	2	*Low*
Common Tern		2	2	5	4	2	1	*Low*
Forster's Tern		4	3	3	2	2	2	*Moderate*
Least Tern		4	2	5	4	3	2	*High*
Black Tern		3	2	4	3	2	2	*Moderate*

1 = Relative Abundance; all factor scores from PIF 2001
2 = Population Size; all factor scores from NAWCP
3 = Population Trend
4 = Breeding Distribution
5 = Non-breeding Distribution
6 = Threats to Breeding
7 = Threats to Non-breeding
8 = not available

Table 3.4a. Conservation, management and stewardship priorities for regularly-occurring waterbird species in the Upper Mississippi Valley/Great Lakes Region, listed by Bird Conservation Region and shown in taxonomic order.

	Priority in Bird Conservation Region[1,2]				
English Name	**12**	**13**	**22**	**23**	**24**
Red-throated Loon	TBD	TBD	TBD	TBD	TBD
Common Loon	Moderate (S)	Moderate	--	Moderate	Not at Risk
Pied-billed Grebe	Not at Risk	Moderate	Low	Not at Risk	Low
Horned Grebe	Moderate	Moderate	Moderate	Moderate	Moderate
Red-necked Grebe	High	Not at Risk	--	Moderate	--
Eared Grebe	Low	--	--	Low	--
Western Grebe	Low	--	--	Low	--
American White Pelican	Low (S)	--	--	Low	--
Double-crested Cormorant	Not at Risk (S, M)	Not at Risk (S, M)	Not at Risk	Not at Risk	Not at Risk
American Bittern	High	High	High	High	Moderate
Least Bittern	Moderate	Moderate	Moderate	Moderate	Moderate
Great Blue Heron	Not at Risk	Not at Risk	Not at Risk	Not at Risk	Not at Risk
Great Egret	Low	Low	Low	Low	Low
Snowy Egret	--	--	Moderate	Moderate	Moderate
Little Blue Heron	--	--	Moderate	--	Moderate
Cattle Egret	Not at Risk	Not at Risk	Not at Risk	Not at Risk	Not at Risk
Green Heron	Low	Low	Low	Low	Low
Black-crowned Night-Heron	Moderate	High	High	Moderate	Moderate
Yellow-crowned Night-Heron	--	--	Low	Low	High
Yellow Rail	High	High	--	High	High
Black Rail	Moderate	Moderate	High	Moderate	Moderate
King Rail	Highly Imperiled	Highly Imperiled	Highly Imperiled	Highly Imperiled	Highly Imperiled
Virginia Rail	Low (M)	Low (M)	Low (M)	Low (M)	Low (M)
Sora	Low (M)	Low (M)	Low (M)	Low (M)	Low (M)
Common Moorhen	Not at Risk (M)	Moderate (M)	Moderate (M)	Moderate (M)	Not at Risk (M)
Purple Gallinule	--	--	TBD	--	TBD
American Coot	Low (M)	Low (M)	Low (M)	Moderate (M)	Low (M)
Sandhill Crane	Low (M)	Low (M)	Moderate (M)	Low (M)	Low (M)
Whooping Crane	--	--	Highly Imperiled	Highly Imperiled	Highly Imperiled
Parasitic Jaeger	TBD	TBD	TBD	TBD	--
Franklin's Gull	TBD	TBD	TBD	TBD	TBD
Little Gull	TBD	TBD	TBD	TBD	--
Bonaparte's Gull	TBD	TBD	TBD	TBD	TBD
Ring-billed Gull	Not at Risk (M,S)	Low (M,S)	Not at Risk	Not at Risk	--
Herring Gull	Low	Low	Low	Low	--
Thayer's Gull	TBD	TBD	TBD	TBD	--
Iceland Gull	TBD	TBD	TBD	TBD	--
Lesser Black-backed Gull	--	TBD	TBD	--	--
Glaucous Gull	TBD	TBD	TBD	TBD	--
Great Black-backed Gull	Low	Low	--	--	--
Sabine's Gull	TBD	TBD	TBD	TBD	TBD

	Priority in Bird Conservation Region[1,2]				
English Name	**12**	**13**	**22**	**23**	**24**
Caspian Tern	Low	Low	Low	Low	Low
Common Tern	High	High	High	High	Moderate
Forster's Tern	Moderate	Moderate	Moderate	Moderate	Moderate
Least Tern (Interior)	--	--	Highly Imperiled	Highly Imperiled	Highly Imperiled
Black Tern	High	High	High	High (S)	Moderate

1. Bird Conservation Regions (BCR):
   - BCR 12 = Boreal Hardwood Transition
   - BCR 13 = Lower Great Lakes/St. Lawrence Plain
   - BCR 22 = Eastern Tallgrass Prairie
   - BCR 23 = Prairie Hardwood Transition
   - BCR 24 = Central Hardwoods

2. Priority:
   - Unless otherwise noted, concern rankings are based on conservation priority.
   - S = Stewardship priority
   - M = Management priority
   - TBD = Status to be determined. Species occurs in the Region as a winter or migrant bird only. Conservation status for wintering or migrating birds will be determined in future planning efforts.
   - = not applicable as species not occurring

3. Breeding activity is peripheral, status to be determined in future planning efforts.

Table 3.4b. Priorities by BCR for regularly occurring waterbird species in the Upper Mississippi Valley Great Lakes Region.

	Priority in Bird Conservation Region[1,2]				
	12	**13**	**22**	**23**	**24**
Highly Imperiled	King Rail	King Rail	King Rail Whooping Crane Least Tern (Interior)	King Rail Whooping Crane Least Tern (Interior)	King Rail Whooping Crane Least Tern (Interior)
High	Red-necked Grebe American Bittern Yellow Rail Common Tern Black Tern	American Bittern Black-crowned Night-Heron Yellow Rail Common Tern Black Tern	American Bittern Black-crowned Night-Heron Black Rail Common Tern Black Tern	American Bittern Yellow Rail Common Tern Black Tern (M)	Yellow-crowned Night-Heron Yellow Rail
Moderate	Common Loon (S) Horned Grebe Least Bittern Black-crowned Night-Heron Black Rail Forster's Tern	Common Loon Pied-billed Grebe Horned Grebe Least Bittern Black Rail Common Moorhen (M) Forster's Tern	Horned Grebe Least Bittern Snowy Egret Little Blue Heron Common Moorhen (M) Sandhill Crane (M) Forster's Tern	Common Loon Horned Grebe Red-necked Grebe Least Bittern Snowy Egret Black-crowned Night-Heron Black Rail Common Moorhen (M) Forster's Tern	Horned Grebe American Bittern Least Bittern Snowy Egret Little Blue Heron Black-crowned Night-Heron Black Rail Common Tern Forster's Tern Black Tern
Low	Eared Grebe Western Grebe American White Pelican (S) Great Egret Green Heron Virginia Rail (M) Sora (M) American Coot (M) Sandhill Crane (M) Herring Gull Great Black-backed Gull Caspian Tern	Great Egret Green Heron Virginia Rail (M) Sora (M) American Coot (M) Sandhill Crane (M) Ring-billed Gull Herring Gull Great Black-backed Gull Caspian Tern	Pied-billed Grebe Great Egret Green Heron Yellow-crowned Night-Heron Virginia Rail (M) Sora (M) Herring Gull Caspian Tern	Eared Grebe Western Grebe American White Pelican Great Egret Green Heron Yellow-crowned Night-Heron Virginia Rail (M) Sora (M) Sandhill Crane (M) Herring Gull Caspian Tern	Pied-billed Grebe Great Egret Green Heron Virginia Rail (M) Sora (M) Sandhill Crane (M) Caspian Tern
Not at Risk	Pied-billed Grebe Double-crested Cormorant (S,M) Great Blue Heron Cattle Egret Common Moorhen (M) Ring-billed Gull (M,S)	Red-necked Grebe Double-crested Cormorant (S,M) Great Blue Heron Cattle Egret	Double-crested Cormorant Great Blue Heron Cattle Egret Ring-billed Gull	Pied-billed Grebe Double-crested Cormorant Great Blue Heron Cattle Egret Ring-billed Gull	Common Loon Double-crested Cormorant Great Blue Heron Cattle Egret Common Moorhen (M)
To Be Determined	Red-throated Loon Parasitic Jaeger Franklin's Gull Little Gull Bonaparte's Gull Thayer's Gull Iceland Gull Glaucous Gull Sabine's Gull	Red-throated Loon Parasitic Jaeger Franklin's Gull Little Gull Bonaparte's Gull Thayer's Gull Iceland Gull Lesser Black-backed Gull Glaucous Gull Sabine's Gull	Red-throated Loon Purple Gallinule Parasitic Jaeger Franklin's Gull Little Gull Bonaparte's Gull Thayer's Gull Iceland Gull Lesser Black-backed Gull Glaucous Gull Sabine's Gull	Red-throated Loon Parasitic Jaeger Franklin's Gull Little Gull Bonaparte's Gull Thayer's Gull Iceland Gull Glaucous Gull Sabine's Gull	Red-throated Loon Purple Gallinule[3] Franklin's Gull Bonaparte's Gull Sabine's Gull

1. Bird Conservation Regions (BCR):
   - BCR 12 = Boreal Hardwood Transition
   - BCR 13 = Lower Great Lakes/St. Lawrence Plain
   - BCR 22 = Eastern Tallgrass Prairie
   - BCR 23 = Prairie Hardwood Transition
   - BCR 24 = Central Hardwoods

2. Priority:
   - Unless otherwise noted, concern rankings are based on conservation priority.
   - S = Stewardship priority
   - M = Management priority
   - TBD = Status to be determined. Species occurs in region as winter or migrant bird only. Conservation status for wintering or migrating birds will be determined in future planning efforts.
   - = not applicable as species not occurring

3. Breeding activity is peripheral, status to be determined in future planning efforts.

Table 3.5. Historic and current population trends of waterbirds breeding in the Upper Mississippi Valley / Great Lakes Region and benchmark timeframe (i.e., timeframe when abundances / distributions were representative of populations in stable habitats or existing under relatively natural conditions, or that existed before well-known declines or increases occurred.

	Trends			
Species	***Historic***	***Current***	***Source***	***Benchmark Time frame***
Common Loon	Declined across s.range early-mid 20th century; retreated from s. range limits in ne. Canada, n. IA, s. MN, n. IL, s. WI, n. IN, s. MI, n. OH, ne. PA, s. ON, and in part New England	Increased 1969-1989 across range.	McIntyre and Barr 1997	Pre-1900
Pied-billed Grebe	Few changes in distribution reported. Expanding into e. QC. Some populations in suitable habitat disappeared from VT and other parts of n.e. U.S. since early 1900s.	Since European settlement, conterminous U.S. has lost ~ 56% of its wetlands to draining, dredging, filling, leveling and flooding. Loss of these habitats likely had profound effects on Pied-billed Grebe population.	Muller and Storer 1999; Palmer-Ball 1996	Pre-1900
Horned Grebe	Formerly may have bred farther south and especially east than at present. For many decades North American breeding range slowly contracting northwestward. In 19th century shot for "fur" and millinery trade.	May be declining as range is contracting. Disappearing from MN and WI.	Stedman 2000	Pre-1900
Eared Grebe	Overall no major changes in breeding range known. Serious decline in late 1880s due to hunting for millinery trade (1000s shot every week); recovery after protection.	Loss of habitat results from wetland drainage, drought, conversion for agriculture, U.S.e of water for irrigation. No trend info available for UMVGL.	Cullen et al. 1999	Pre-1900
Red-necked Grebe	Little historical info available. Impact on grebes from hunting for “furs” and hats uncertain. North American breeding range may have extended east to QC and NB but shift was poorly documented.	No clear trends. North American population probably stable. Declines in WI and s. ON. Major sources of habitat loss include draining of potholes, etc.; destruction of emergent veg near lakefront properties; decreasing waterlevels around wetlands; erosion.	Stout and Nuechterlein 1999	Pre-1900
Western Grebe	Early 1890s-1906, 10s of 1000s shot for capes, coats and hats. Large colonies wiped out by market hunters. Drainage of lakes for agriculture has reduced nesting habitat and pesticides have drastically reduced some populations.	No thorough survey available. Total North American population may be >118,000 birds (but may include some Clark's Grebes).	Storer and Neuchterlein 1992	Pre-1900
American White Pelican	Long term historical decline until 1960s; range contracted until 1970s, then some re-colonization.	Large increases 1960s to present:.U.S. 1964: 17,872; 1980-81: 22,299 nests; Canada 1967-69: 14,103, 1985-86: 53,345 nests	Evans and Knopf 1993	Pre-1900

	Trends			
Species	***Historic***	***Current***	***Source***	***Benchmark Time frame***
Double-crested Cormorant	Numbers greatly reduced across most of range and many local extirpations by 1900.	Large increases & re-colonization across much of range between 1970-2000, especially interior and Atlantic Coast	Wires et al. 2001	Pre-1900; Great Lakes no clear benchmark
American Bittern	Historically range may have shifted northward. Loss of wetlands by 1890s and hunting early 1900s may have substantially reduced populations.	BBS data 1966-1989 indicate significant decline in U.S. and in n. central states, associated mostly with wetland loss. Inland freshwater wetlands required by AMBI still among most threatened habitats.	Gibbs et al. 1992	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway
Least Bittern	Little historic info available. Wetland losses probably reduced populations.	Trends uncertain, possible declines. Listed in several states. Destruction of wetland habitat likely the greatest threat to species.	Gibbs et al. 1992; Conway 2001.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway
Great Blue Heron	Populations decimated across North America late 19th- and early 20th centuries by millinery trade. Populations began to recover after trade was outlawed but not well tracked until 1960s. Loss of wetlands probably affected abundance also, but species not thought to have retracted from former range.	Generally thought to have increased over last 30 years and is abundant in much of range. In Great Lakes, increased since late 1970s, but declined by ~ 20% between 1991 and late 1990s.	Palmer 1962; Butler 1992; Cuthbert et al. 2003a	Pre-1900 or current
Great Egret	Populations decimated late 19th-early 20th century by millinery trade; reduced by > 95% in North America. Populations recovered between 1920s-1930s. Range expansion northwards began 1950s. One early (1870) breeding record for Great Lakes, Port Union, Ontario. Upper MS area peak recovery may have occurred 1930s-1960s.	Upper MS area 1950s-1970s a period of widely reported declines. Since 1970s-1980s a slow increase occurred throughout interior river basins of Great Lakes region. Great Lakes increased by 500% between 1977-1999. Numbers nesting in North America n. of Mexico may be highest for any time during 20th century.	McCrimmon et al. 2001; Weseloh et al. 2003	Not clear, possibly 1930s-1960s
Snowy Egret	Numbers plummeted between 1880-1910 due to millinery trade. Began recovery after MBTA in 1916. Began expanding range north in 1930s.	A lot of flux in 20th century. Explosive re-colonization of mid-Atlantic coast and colonization of ne. U.S.. tempered with population declines since 1980s. Rare in Great Lakes and peripheral in region.	Parsons and Master 2000	Not clear, possibly 1930s

	Trends			
Species	***Historic***	***Current***	***Source***	***Benchmark Time frame***
Little Blue Heron	Limited historic information available. Largely escaped plume hunting, but disturbance of colonies, drainage of wetlands, and altered hydrocycles via land development and recreational activities probably have caused declines in numbers.	Current distribution similar to historic. Range expansion to Dakotas and MN in 1980s-1990s. Populations appear stable in some portions of range, declining in others. Peripheral in most of UMVGL except BCR 24.	Rodgers and Smith 1995	Not clear, possibly pre-1900 or current
Cattle Egret	Range expansion to North American continent early 1950s; early 1960s in MO and s. ONT; MN by 1970.	Increasing continentally since the 1960s, but rate of increase has declined in recent years. No clear trends for UMVGL.	Telfair 1994	Not clear, possibly current
Green Heron	Land development, wetland drainage, recreational use of coastal wetlands may have reduced populations locally. Limited information from early 20th century available.	Range expanding in mid-continent of North America. Poor data on numbers and trends difficult to assess. Available data suggest increases.	Davis and Kushlan 1994	No clear benchmark
Black-crowned Night-Heron	Declines thought to have occurred with habitat loss (wetland drainage, land development), hunting and disturbance. In Great Lakes, nested sporadically on Lake Ontario and the St. Lawrence and St. Clair rivers.	Limited information available, still impacted by habitat destruction and human disturbance. Declining in Great Lakes since 1970s, mostly due to declines at W. Sister Is., Lake Erie. Sharp decline reported in inland Ohio followed by some re-colonization in late 1990s and 2000.	Davis 1993; Weseloh et al. 2003; Peterjohn and Zimmerman 1989	Not clear, possibly 1900 or 1950s. Great Lakes possibly 1970s
Yellow-crowned Night-Heron	Sharp range contraction in the late 1800s; causes in range fluctuation not clear. Northern breeding range expansion between 1925-1960 is thought to be a re-colonization of previously occupied areas.	Species difficult to census and is probably underestimated. No definitive trend information, but may be increasing, based on new records in 1970s-1980s.	Watts 1995	Possibly late 1800s, needs more research
Yellow Rail	Southern boundary of breeding area has moved northward in 20th century, probably due to draining of wetlands.	Local in breeding range. Loss of wetlands significant factor affecting species. No information on trends. In QC, drainage of wetlands resulted in loss of 40% of coastal marshlands along St. Lawrence Rivers 1950-1978; also dike building.	Bookhout 1995	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway.
Black Rail	Eastern breeding range contracted since early 1930s. It is estimated that half of the historical coastal wetlands have been filled or drained along the eastern coastline. Species now confined to most pristine remnants of historical tidal marshes.	Coastal and Midwest populations declined drastically between 1920s and 1970s. Little info available to estimate trends. Not included on list of game species since 1967. Inland populations threatened by elimination of marsh vegetation and lining of irrigation canals, which eliminates shallow wetlands fed by seepage and preferred by Black Rails.	Eddleman et al. 1994	Not clear, possibly 1900-1920s or earlier

	Trends			
Species	***Historic***	***Current***	***Source***	***Benchmark Time frame***
King Rail	Significant changes have occurred, mostly due to population declines. Locally range has contracted due to loss of wetlands.	Significant declines over last 30 years throughout major portions of range, owing mostly to loss of wetlands. Drastic reductions in breeding range in OH, MN, IA, IL and IN.	Meanley 1992; Poole et al. 2005; R. Russell (pers. comm.)	Not clear, possibly 1900 or pre-1970s; Colorado Marshbird Workshop, 2001, C. Conway.
Virginia Rail	No recent changes in distribution are known, but few data available. Population declines in early 1900s in n.e. U.S. due to wetland loss.	Based on BBS data populations declined throughout North America 2.2%/year from 1982-1991. Declines greatest in central U.S. BBS data may underestimate negative trends.	Conway 1995	Not clear, possibly 1900 or 1970s; Colorado Marshbird Workshop, 2001, C. Conway
Sora	Breeding distribution in U.S. has likely become more localized during this century as a result of wetland loss and degradation.	BBS estimates that population declined 3.3% annually 1966-1991 in North America. Populations were stable 1982-1991 in Canada, but declined 8.5% annually in U.S. during the same period	Melvin and Gibbs 1996	Not clear, possibly 1900 or 1970s; Colorado Marshbird Workshop, 2001, C. Conway
Common Moorhen	Appears to have expanded range northward in North America during 20th century; human caused habitat changes largely responsible. Impacts of habitat loss and degradation not clear because moorhens may benefit where human modifications of landscape provide habitat.	Few survey data available. BBS data showed non-significant 3.8% annual increase for U.S and Canada 1966-1999. However, significant declines for Canada alone (3.6%), ON (3.3%), WI (18.2%), the "Great Lakes Plain" (17%); no statistically significant regional or state increases.	Bannor and Kiviat 2002	Not clear, possibly 1900 or 1970s
American Coot	Major population decline in late 1800s, likely due to wetland loss in main portion of breeding range (Midwestern U.S. and e. Central Canada) between 1870 and 1930, and after WWII. Species was over-hunted during this same period. Significant decline in distribution since early 20th century, especially in e. North America, but also expanded breeding range westward	Population stabilized during last 3 decades, but annual totals may fluctuate dramatically in response to moisture levels on breeding grounds. Between 1966-1999, BBS indicated significant increases in ND, the Drift Prairie and glaciated MO Plateau physiographic regions, Central BBS region 7 and entire U.S. At same time period significant declines in MN.	Brisbin and Mowbray, 2002	Pre-1900
Sandhill Crane	Breeding range formerly more extensive, extending south to AZ, Baja CA in MX, n.w. and c. MX, and in IL and n. OH.	Currently increasing. Has reoccupied former breeding range and is expanding in n.w. and north central OH, n.e. IN, n.e. IL and IA.	Tacha et al. 1992; R. Russell (pers. comm.)	Pre-1900

	Trends			
Species	***Historic***	***Current***	***Source***	***Benchmark Time frame***
Ring-billed Gull	Decline in numbers and distribution from 1840s-1920s due to millinery trade, egging and loss of nesting habitat (nearly decimated). By early 1900s disappeared from many breeding sites, including many in Great Lakes. Re-established in Great Lakes by 1926.	Large increases in Great Lakes during last 50 years; also increases in Atlantic Canada and in western population during last half of century.	Ryder 1993; Weseloh et al. 2003.	Pre-1900
Herring Gull	Nearly decimated in North America during 19th century due to millinery trade and egging. Began re-colonizing portions of Great Lakes in 1920s.	Southward range expansion, large increases during last 50 years.	Pierotti and Good 1994	Pre-1900
Great Black-backed Gull	Atlantic coast decimated by millinery trade and egg collectors in 1800s. No breeding reported in U.S. until 1920s.	Southward expansion since 1960s. First breeding in Great Lakes (Lake Huron) in 1954. Large increases on At Coast 1970s-1990s.	Good 1998	Not clear, possibly current
Caspian Tern	Shifted from inland to coastal sites on Pacific Coast early 1900s; range expansion along Pacific Coast and Central Canada; Atlantic Coast more abundant pre-1900s.	Large increases on Pacific and Gulf coasts, Great Lakes and Central Canada during last 30 years. Since 1960s large increases in migrant numbers in Chicago and n. IN. Declines on Atlantic Coast throughout 20th century.	Wires and Cuthbert 2000; Cuthbert and Wires 1999; R. Russell (pers. comm.)	Pre-1900
Common Tern	100s of 1000s killed between 1870-1890 for millinery trade; by early 1890s numbers in U.S. reduced to few thousands at < 10 documented sites. By 1930s had reoccupied most of original range and recovered much of original numbers. In Great Lakes abundant nester but greatly reduced by 1900. Increases documented during 1st half of 20th century, then significant declines.	Since 1977, 1st Great Lakes wide census, numbers have declined by ~ 14%. In Great Lakes numbers peaked about 1960 (16,000-21,000 in lower Great Lakes) were recorded. Post 1960, declines associated with gulls, contaminants, predation, vegetative succession and habitat loss.	Matteson 1988; Nisbet 2002; Cuthbert et al. 2003b; Weseloh et al. 2003.	Possibly 1960 numbers for Great Lakes, 1930s for other areas
Forster's Tern	Very little historic data. Since presettlement times well over 50% of prairie wetlands in northern Great Plains (primary range) converted to agriculture.	In MN decline of 60% between 1942 and mid 1980s.	McNicholl et al. 2001, Cuthbert and Louis 1993	Not clear, possibly pre-1900 or 1940s estimates, not available for entire region.
Least Tern	Declined rapidly and substantially in late 1800sby collecting for millinery trade. Population rebounded with MBTA but was again diminished by recreational, industrial and residential development in coastal breeding areas and altered hydrology at interior breeding areas during 1950s-1970s. Post 1980 conservation efforts lead to population rebounding again	1990s breeding distribution similar to historic extent but colony distribution within area much more fragmented, especially for interior populations. Loss of much nesting habitat resulted in state and federal listings for interior population. Best info suggests interior population increased 1986-1991 from 4,125 to 6,830 pairs.	Thompson et al. 1997	Pre-1900

	Trends			
Species	***Historic***	***Current***	***Source***	***Benchmark Time frame***
Black Tern	In early 1900s was described as most widely distributed, universally common and characteristic summer resident of the sloughs, marshes and wet meadows of the plains.	North American population declined markedly (by 2/3s) and continuously since at least the 1960s. Loss of wetlands on breeding grounds and migration routes a major cause. Declines on wintering grounds may also be impacting breeding numbers.	Bent 1921; Dunn and Agro 1995	Not clear, possibly 1960s

Table 3.6. Conservation or management objectives for priority waterbirds in Bird Conservation Region 12 (*Boreal Hardwood Transition*).

Species	*Priority*[1]	*Conservation or Management Objective*	*Justification for Objective*	*Benchmark Timeframe/*	*Breeding Population Estimate*[2]	*Breeding Population Trend*[2]	*Area Importance*
Common Loon	Moderate, S	Maintain current population.	Historically important core area for breeding loons; species is a Stewardship priority in this BCR.	Pre-1900	~ 55,000 pairs	Stable	3
Horned Grebe	Moderate	Identify and protect important staging areas in Region.	Regular occurrence in relatively large numbers warrants conservation of important staging areas. Conservation rankings based on presence during migration.	Pre-1900	NA	NA	NA
Red-necked Grebe	High	Maintain current breeding population and staging areas, identify and protect additional staging areas.	Narrow migratory routes are of national concern, large numbers pass through BCR 12; risks on wintering range unknown; relatively small continental population size emphasizes importance of all significant breeding units.	Pre-1900	Low 1000s pairs	NA	NA
American Bittern	High	Monitor / census for baseline information. Increase quality and quantity of breeding / wintering habitat to pre-1970s levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective). Maintain and restore sedge meadow habitat, large marsh complexes, wet prairie fringe of wetlands. Waterfowl management beneficial if water levels are maintained through breeding season.	.Species has declined significantly and lost much wetland habitat in many portions of UMVGL Region. Species has listed status in many UMVGL states.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	NA	Declining	NA

Species	***Priority[1]***	***Conservation or Management Objective***	***Justification for Objective***	***Benchmark Timeframe/***	***Breeding Population Estimate[2]***	***Breeding Population Trend[2]***	***Area Importance***
Least Bittern	Moderate	Monitor/census for baseline information; determine if more widely distributed than previously believed. Increase quality and quantity of breeding and wintering habitat to pre-1900 levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective). Adopt waterfowl habitat objectives.	Reliable data for this species very limited. Birders report species reduced over much of range and extirpated in some areas. Significant habitat loss. Species has listed status in many UMVGL states and is Threatened in Canada.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	NA	NA	NA
Black-crowned Night-Heron	Moderate	Maintain current population.	Species occurs in limited numbers and sites and may be declining in some portions of BCR.	Not clear, possibly 1900 or 1950s. Great Lakes possibly 1970s	>1,410 pairs	Possibly declining in some areas; expanding northwards in Lake Huron.	2
Yellow Rail	High	Monitor/census for baseline information; provide wet sedge meadow habitat and pursue opportunities to increase habitat; employ habitat strategies to incorporate use of fire management; do not create hemi-marshes of existing habitat. Increase population, quality and quantity of breeding and wintering habitat to pre-1970s levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective).	Listed status in several states and provinces within BCR; wide-spread wetland habitat loss, still occurring to some degree in southern breeding range; extensive habitat loss on wintering grounds.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	< 300 pairs	NA	2
King Rail	Highly Imperiled	Monitor/census for baseline information; restore large areas of shallow grassland/wetland complexes in potential or recorded use areas. Adopt objectives of King Rail Recovery Plan when completed.	Endangered in Canada and most states in UMVGL; large declines in the past 30 years in northern part of range, mostly due to wetland loss.	Not clear, possibly 1900 or 1970s	10 pairs	NA	NA

Species	***Priority[1]***	***Conservation or Management Objective***	***Justification for Objective***	***Benchmark Timeframe/***	***Breeding Population Estimate[2]***	***Breeding Population Trend[2]***	***Area Importance***
Common Tern	High	Maintain MN at > 1000 pairs and QC at 195 pairs, increase in WI to 600 pairs, ON to 3000 pairs, and MI to 1000 pairs; maintain sites; monitor regularly; pursue coordinated effort with Army Corps on St. Mary's River to create / maintain habitat.	Threatened or Endangered status in MN, MI, and WI; In Great Lakes large declines since 1960s, 14% decline since 1977 census; in many portions of BCR, no natural habitat available for nesting.	Possibly 1960 numbers for Great Lakes, 1930s for other areas	4,023-4111 pairs	Declining	2
Forster's Tern	Moderate	Maintain coastal wetland habitat that has been used by FOTE in the past.	Declining in UMVGL Region overall and in BCR. Endangered status in WI, Special concern in MI and MN.	Not clear, possibly pre-1900 or 1940s estimates, not available for entire region.	459 pairs	Declining	2
Black Tern	High	Maintain at least 6,600 pairs in BCR, increase in WI to 300 pairs and in MN by 10% (~500 pairs), maintain current numbers in QC and ON. Increase existing habitat quality.	Special Concern status in MI and WI, Vulnerable in ON; USFWS Migratory Nongame Birds of Conservation Concern List; historical range reductions and declines around Great Lakes, major loss of habitat; potential declines on wintering grounds.	Not clear, possibly 1960s	6,000 pairs	Declining	NA

1. Unless otherwise noted, concern rankings are based on conservation priority. S = Stewardship Priority, M = Management Priority

2. NA = Not available

Table 3.7. Conservation or management objectives for priority waterbirds in Bird Conservation Region 13 (*Lower Great Lakes / St. Lawrence Plain*).

Species	*Priority*[1]	*Conservation or Management Objective*	*Justification for objective*	*Benchmark Timeframe*	*Breeding Population Estimate*[2]	*Breeding Population Trend*[2]	*Area Importance*[2]
Common Loon	Moderate	Maintain	Historically, few loons nested in BCR 13	Pre-1900	310 pairs	stable	1
Pied-billed Grebe	Moderate	Adopt habitat objectives of NAWMP to maintain and or benefit this species; Include in general monitoring efforts for marshbirds, priority emphasis in NY and VT	Don't know enough about population for population objective; monitoring and habitat objectives are starting points for conservation. Threatened status in NY and Special Concern in VT warrant more focused monitoring and planning efforts in these states.	Pre-1900	NA	BBS suggests declines in NY, OH, VT	2
Horned Grebe	Moderate	Identify and protect important staging areas in region. Conservation rankings based on presence during migration.	Regular occurrence in relatively large numbers warrants conservation of important staging areas.	Pre-1900	NA	NA	NA
American Bittern	High	Monitor / census for baseline information. Increase quality and quantity of breeding / wintering habitat to pre-1970s levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective).Maintain and restore sedge meadow habitat, large marsh complexes, wet prairie fringe of wetlands. Waterfowl objectives beneficial if water levels are maintained through breeding season.	Has declined significantly and lost much wetland habitat in many portions of UMVGL region. Species has listed status in many UMVGL states.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	NA	Declining	NA
Least Bittern	Moderate	Monitor/census for baseline information; determine if more widely distributed than previously believed. Increase quality and quantity of breeding and wintering habitat to pre-1900 levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective). Adopt waterfowl habitat objectives.	Reliable data for this species very limited. Birders report species reduced over much of range and extirpated in some areas. Significant habitat loss. Species has listed status in many provinces and states within UMVGL.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	NA	NA	NA

Species	***Priority[1]***	***Conservation or Management Objective***	***Justification for objective***	***Benchmark Timeframe***	***Breeding Population Estimate[2]***	***Breeding Population Trend[2]***	***Area Importance[2]***
Black-crowned Night-Heron	High	Increase to 4500 pairs (based largely on BCR 13 plan goal); create and manage potential habitat (vegetational stage), new sites to reach population goal.	Species listed as High Priority in BCR 13 draft implementation plan; forested and emergent wetlands that species relies on in this region have been dramatically reduced.	Not clear, possibly 1900 or 1950s. Great Lakes possibly 1970s	> 2976 pairs	stable / increasing	3
Yellow Rail	High	Include in marshbird monitoring efforts; provide wet sedge meadow habitat and pursue opportunities to increase habitat; employ habitat strategies to incorporate use of fire management; do not create hemi-marshes of existing habitat. Increase population, quality and quantity of breeding and wintering habitat to pre-1970s levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective).	Listed status in ONT and QB; widespread wetland habitat loss, still occurring to some degree in southern breeding range; extensive habitat loss on wintering grounds.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	75 pairs	NA	2
King Rail	Highly Imperiled	Support / establish monitoring protocols at state and provincial levels to assess population status and develop population objectives. Increase population to pre-1970s levels, prevent range contraction and increase quality and quantity of both breeding and wintering habitat to 1900 levels (determine these levels by review of data in each state / province) (Colorado Marshbird Workshop objective). Adopt objectives of King Rail Recovery Plan when completed..Restore large areas of shallow grassland/wetland complexes in potential or recorded use areas.	Endangered in most states and provinces in UMVGL; large declines in the past 30 years in northern part of range, mostly due to wetland loss.	Not clear, possibly 1900 or 1970s	32 pairs	NA	NA
Common Moorhen	Moderate (M)	Include in marshbird monitoring program; reverse declining trends. Improve proportion of useable habitat in marsh, more managed wetlands and hemi-marsh; adopt waterfowl management objectives.	Special Concern in MI, MN, WI; Long-term decline in Great Lakes Plain	Not clear, possibly 1900 or 1970s	NA	NA	NA

Species	***Priority[1]***	***Conservation or Management Objective***	***Justification for objective***	***Benchmark Timeframe***	***Breeding Population Estimate[2]***	***Breeding Population Trend[2]***	***Area Importance[2]***
Common Tern	High	Increase in ONT to 4500 pairs, QB to 1050 pairs, NY to 2500 pairs, VT to 350 pairs; regularly monitor and maintain / manage sites.	Threatened status in New York, Endangred in OH, PA and VT; in Great Lakes large declines since 1960s, 14% decline since 1977 census; almost no natural habitat available for nesting.	Possibly 1960 numbers for Great Lakes, 1930s for other areas	6,484 pairs	Declining	2
Forster's Tern	Moderate	Maintain ~ 850 pairs in ONT; maintain coastal wetland habitat that has been used by FOTE in the past.	Declining in UMVGL Region overall. Occurs only in ONT in BCR 13.	Not clear, possibly pre-1900 or 1940s estimates, not available for entire region.	839 pairs	Increasing / stable	2
Black Tern	High	Maintain at least 4,600-5,000 pairs in BCR, increase in QB to 500 pairs, NY to 300-500 pairs, ONT to 3500 pairs Increase existing habitat quality and quantity, especially number of managed marshes.	Endangered status in NY, OH, PA, Threatened in VT, Vulnerable in ON; USFWS Migratory Nongame Birds of Managment Concern List; PIF Watch List Moderate Priority Species; Historical range reductions and declines around Great Lakes, major loss of habitat; potential declines on wintering grounds.	Not clear, possibly 1960s	2085-2144 pairs	Declining	NA

1. Unless otherwise noted, concern rankings are based on conservation priority. S = Stewardship Priority, M = Management Priority

2. NA = Not available

Table 3.8. Conservation or management objectives for priority waterbirds in Bird Conservation Region 22 (*Eastern Tallgrass Prairie*)

Species	*Priority*[1]	*Conservation or Management Objective*	*Justification for Objective*	*Benchmark Timeframe*	*Breeding Population Estimate*[2]	*Breeding Population Trend*[2]	*Area Importance*[2]
Horned Grebe	Moderate	Identify and protect important staging areas in region. Conservation rankings based on presence during migration.	Regular occurrence in relatively large numbers warrants conservation of important staging areas.	Pre-1900	NA	NA	NA
American Bittern	High	Monitor / census for baseline information. Increase quality and quantity of breeding / wintering habitat to pre-1970s levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective).Maintain and restore sedge meadow habitat, large marsh complexes, wet prairie fringe of wetlands. Waterfowl objectives beneficial if water levels are maintained through breeding season.	.Species has declined significantly and lost much wetland habitat in many portions of UMVGL region. Species has listed status in many UMVGL states.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	NA	Declining	NA
Least Bittern	Moderate	Monitor/census for baseline information; determine if more widely distributed than previously believed. Increase quality and quantity of breeding and wintering habitat to pre-1900 levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective). Adopt waterfowl habitat objectives.	Reliable data for this species very limited. Birders report species reduced over much of range and extirpated in some areas. Significant habitat loss. Species has listed status in many provinces and states within UMVGL.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	NA	NA	NA
Little Blue Heron	Moderate	Maintain breeding numbers and sites	High Concern species at continental level. Population declines in major southeastern portion of breeding range. Endangered status in IL.	Not clear, possibly pre-1900 or current	675-775 pairs	Increasing	1
Black-crowned Night-Heron	High	Increase to 3000 pairs; create and manage potential habitat (vegetational stage), new sites to reach population goal.	Species has Endangered or other listed status in IN, IL, MI, OH and WI; large steady declines at largest Great Lakes colony since 1970s.	Not clear, possibly 1900 or 1950s. Great Lakes possibly 1970s	> 1565 pairs	Stable / declining	2

Species	***Priority[1]***	***Conservation or Management Objective***	***Justification for Objective***	***Benchmark Timeframe***	***Breeding Population Estimate[2]***	***Breeding Population Trend[2]***	***Area Importance[2]***
Black Rail	High	Include in marshbird monitoring; follow up on sightings immediately; provide shallow water (<3 cm) and adequate diverse vegetative cover. In areas with recent sightings (Kankakee, Adams Co., IL, Swan Lake, MO), introduce experimental small-scale restoration efforts.	Only BCR in UMVGL Region where species is reported to breed with certainty; appears to have declined drastically across U.S. in 20th century. Endangered status in IL, IN, NE; dramatic declines associated with wide-spread wetland habitat loss.	Not clear, possibly 1900-1920s, or earlier	NA	NA	NA
King Rail	Highly Imperiled	Support / establish monitoring protocols at state and provincial levels to assess population status and develop population objectives. Restore large areas of shallow grassland/wetland complexes in potential or recorded use areas. Increase population to pre-1970s levels, prevent range contraction and increase quality and quantity of both breeding and wintering habitat to 1900 levels (determine these levels by review of data in each state) (Colorado Marshbird Workshop objective).	Federally Endangered in Canada and endangered in most states in UMVGL; large declines in the past 30 years in northern part of range, mostly due to wetland loss.	Not clear, possibly 1900 or 1970s	5 pairs	NA	NA
Common Moorhen	Moderate (M)	Include in marshbird monitoring program; reverse declining trends. Improve proportion of useable habitat in marsh, more managed wetlands and hemi-marsh; adopt waterfowl management objectives.	Threatened in IL and Special Concern in several other states in BCR 22; Long-term declines in Great Lakes Plain.	Not clear, possibly 1900 or 1970s	>1030		1
Sandhill Crane	Moderate (M)	Adopt flyway council's objectives for eastern population (portion in BCR 22) when established.	Species has listed status in several states in this BCR.	Pre-1900	< 150 pairs	Increase-stable	NA
Common Tern	High	Increase in OH to 250 pairs, IL to 100 pairs, (determine goal for MI); regularly monitor and maintain / manage sites.	Endangered in IL and OH; in Great Lakes large declines since 1960s, 14% decline since 1977 census; almost no natural habitat available for nesting.	Possibly 1960 numbers for Great Lakes, 1930s for other areas	120 pairs	Increasing	1
Forster's Tern	Moderate	Maintain / re-establish 75 pairs; maintain coastal wetland habitat that has been used by FOTE in the past.	Endangered in IL and WI, Special Concern in MI and MN.	Not clear, possibly pre-1900 or 1940s estimates, not available for	Possibly extipated		1

				entire region.			
Species	***Priority[1]***	***Conservation or Management Objective***	***Justification for Objective***	***Benchmark Timeframe***	***Breeding Population Estimate[2]***	***Breeding Population Trend[2]***	***Area Importance[2]***
Least Tern	Highly Imperiled	Recovery Plan Population Goals: MO River System = 2100 adults; AR River system = 800 adults (split goal of 1600 adults between BCRs 22 and 24); Update Recovery Plan, revisit Recovery System, form Recovery Team with possible focus on habitat objective and water level management rather than population objective; maintain average fledging success of 0.7.	Federally Endangered in the U.S. Because species moves around a lot and habitat varies, shift focus to habitat and productivity. Recovery Plan is not recent and needs updating.	Pre-1900	490 pairs?	Stable / declining	2
Black Tern	High	Maintain at least 600-800 pairs across BCR in at least 3 separate locations; Increase existing habitat quality and quantity, especially number of managed marshes.	Endangered status in IL, IN and OH, Special Concern in IA, WI and MI;USFWS Migratory Nongame Birds of Managment Concern List; PIF Watch List Moderate Priority Species; Historical range reductions and declines around Great Lakes, major loss of habitat; potential declines on wintering grounds.	Not clear, possibly 1960s	< 50 pairs; probable decline	Declining	NA

1. Unless otherwise noted, concern rankings are based on conservation priority. M = Management Priority

2. NA = Not available

Table 3.9. Conservation or management objectives for priority waterbirds in Bird Conservation Region 23 (*Prairie Hardwood Transition*)

Species	*Priority*[1]	*Conservation or Management Objective*	*Justification for objective*	*Benchmark Timeframe*	*Breeding Population Estimate*[2]	*Breeding Population Trend*[2]	*Area Importance*[2]
Common Loon	Moderate	Increase in WI by 100 pairs, 50 pairs in Michigan, maintain / increase current numbers in MN.	Range contracted from southern portions of BCR (MI, WI and MN). Numbers in southern portions larger historically than currently. In MI beeding loons were more widespread even in the 1980s than they are today.	Pre-1900	1600-2000 pairs	Stable	1
Horned Grebe	Moderate	Identify and protect important staging areas in region. Conservation rankings based on presence during migration.	Regular occurrence in relatively large numbers warrants conservation of important staging areas.	Pre-1900	NA	NA	NA
Red-necked Grebe	Moderate	Maintain current breeding population	Narrow migratory routes increase vulnerability; risks on wintering range unknown; relatively small continental population size emphasizes importance of all significant breeding units (Endangered WI)	Pre-1900	100s-low 1000s		NA
American Bittern	High	Monitor / census for baseline information. Increase quality and quantity of breeding / wintering habitat to pre-1970s levels (determine these levels by review of data in each state), and prevent range contraction (Colorado Marshbird Workshop objective).Maintain and restore sedge meadow habitat, large marsh complexes, wet prairie fringe of wetlands. Waterfowl objectives beneficial if water levels are maintained through breeding season.	Species has declined significantly and lost much wetland habitat in many portions of UMVGL region. Species has listed status in many UMVGL states.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	NA	Declining	NA

Species	***Priority[1]***	***Conservation or Management Objective***	***Justification for objective***	***Benchmark Timeframe***	***Breeding Population Estimate[2]***	***Breeding Population Trend[2]***	***Area Importance[2]***
Least Bittern	Moderate	Monitor/census for baseline information; determine if more widely distributed than previously believed. Increase quality and quantity of breeding and wintering habitat to pre-1900 levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective). Adopt waterfowl habitat objectives.	Reliable data for this species very limited. Birders report species reduced over much of range and extirpated in some areas. Significant habitat loss. Species has listed status in many provinces and states within UMVGL.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	NA	NA	NA
Snowy Egret	Moderate	Maintain breeding numbers and sites	High Concern species at continental level. Experienced widespread decline in late 20th century.Very sensitive to environmental influences. Significant habitat loss. Endangered or listed status in several UMVGL states.	Not clear, possibly 1930s	< 30 pairs	NA	1
Black-crowned Night-Heron	Moderate	Maintain breeding numbers and sites; monitor sites shared with cormorants.	Species has Endangered or other listed status in IN, IL, MI, OH and WI; declining in BCR.	Not clear, possibly 1900 or 1950s. Great Lakes possibly 1970s	1700-1900 pairs	Declining	2
Yellow Rail	High	Include in marshbird monitoring efforts; provide wet sedge meadow habitat and pursue opportunities to increase habitat;employ habitat strategies to incorporate use of fire management; do not create hemi-marshes of existing habitat. Increase population, quality and quantity of breeding and wintering habitat to pre-1970s levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective).	Listed status in several states within BCR; wide-spread wetland habitat loss, still occuring to some degree in southern breeding range; extensive habitat loss on wintering grounds.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway.	100s (pairs)	NA	2

Species	***Priority[1]***	***Conservation or Management Objective***	***Justification for objective***	***Benchmark Timeframe***	***Breeding Population Estimate[2]***	***Breeding Population Trend[2]***	***Area Importance[2]***
Black Rail	High	Prioritize habitat and areas used during migration	Endangered status in several states in UMVGL; dramatic declines associated with wide-spread wetland habitat loss.	Not clear, possibly 1900-1920s, or earlier	NA	NA	NA
King Rail	High	Support / establish monitoring protocols at state and provincial levels to assess population status and develop population objectives. Restore large areas of shallow grassland/wetland complexes in potential / recorded use areas.	Endangered in most states and provinces in UMVGL; large declines in the past 30 years in northern part of range, mostly due to wetland loss.	Not clear, possibly 1900 or pre-1970s; Colorado Marshbird Workshop, 2001, C. Conway.	< 10 pairs	NA	NA
Common Moorhen	Moderate (M)	Include in marshbird monitoring program; reverse declining trends. Improve proportion of useable habitat in marsh, more managed wetlands and hemi-marsh; adopt waterfowl management objectives.	Threatened in IL, Special Concern in MI, MN, WI; Long-term decline in Great Lakes Plain	Not clear, possibly 1900 or 1970s	NA	NA	NA
American Coot	Moderate (M)	Determine if species is declining in BCR 23; if so, examine causes, reverse decline.	Large and steady declines observed in WI portion of BCR 23 (1973-2003) warrant further investigation.	Pre-1900	1000s	Possibly declining	NA
Common Tern	High	Increase in WI to 400 pairs, in MI to 300-400 pairs; regularly monitor and maintain / manage sites.	Threatened status in MN and MI, Endangered in IL, OH and WI; in Great Lakes large declines since 1960s, 14% decline since 1977 census; almost no natural habitat available for nesting.	Possibly 1960 numbers for Great Lakes, 1930s for other areas	250-320 pairs;	Declining in WI	1
Forster's Tern	Moderate	Increase to ~ 1900 pairs (potential for 100 more pairs in MN, 375 more in WI); No more than half on artificial platforms. Maintain coastal wetland habitat that has been used by FOTE in the past.	Endangered in Il and WI, Special Concern in MI and MN	Not clear, possibly pre-1900 or 1940s estimates, not available for entire region	1433 pairs	Declining	2

Species	***Priority[1]***	***Conservation or Management Objective***	***Justification for objective***	***Benchmark Timeframe***	***Breeding Population Estimate[2]***	***Breeding Population Trend[2]***	***Area Importance[2]***
Black Tern	High	Maintain at least 8,975 pairs; Increase in: MN by 10% (~700 pairs), WI to 1000 pairs, MI to 250 pairs and IA to 25-50 pairs. Increase existing habitat quality.	USFWS Migratory Nongame Birds of Managment Concern List; PIF Watch List Moderate Priority Species; historical range reductions and declines around Great Lakes, major loss of habitat; potential declines on wintering grounds.	Not clear, possibly 1960s	>7075,probable decline	Declining	NA

1. Unless otherwise noted, concern rankings are based on conservation priority. M = Management Priority

2. NA = Not available

Table 3.10. Conservation or management objectives for priority waterbirds in Bird Conservation Region 24 (*Central Hardwoods*).

Species	*Priority*[1]	*Conservation or Management Objective*	*Justification for Objective*	*Benchmark Timeframe*	*Breeding Population Estimate*[2]	*Breeding Population Trend*[2]	*Area Importance*[2]
American Bittern	Moderate	Monitor / census for baseline information. Increase quality and quantity of breeding / wintering habitat to pre-1970s levels (determine these levels by review of data in each state), and prevent range contraction (Colorado Marshbird Workshop objective).Maintain / restore sedge meadow habitat, large marsh complexes, wet prairie fringe of wetlands. Waterfowl objectives beneficial if water levels are maintained through breeding season.	Species has declined significantly and lost much wetland habitat in many portions of UMVGL region. Species has listed status in many UMVGL states.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	< 26 pairs	Declining	1
Least Bittern	Moderate	Monitor/census for baseline information; determine if more widely distributed than previously believed. Increase quality and quantity of breeding and wintering habitat to pre-1900 levels (determine these levels by review of data in each state / province), and prevent range contraction (Colorado Marshbird Workshop objective). Adopt waterfowl habitat objectives.	Reliable data for this species very limited. Birders report species reduced over much of range and extirpated in some areas. Significant habitat loss. Species has listed status in many provinces and states within UMVGL.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway	< 50 pairs	NA	NA
Snowy Egret	Moderate	Maintain breeding numbers and sites; explore potential to increase habitat base.	High Concern species at continental level. Experienced widespread decline in late 20th century.Very sensitive to environmental influences. Significant habitat loss. Endangered or listed status in several UMVGL states.	Not clear, possibly 1930s	500 pairs	Declining	2
Little Blue Heron	Moderate	Maintain breeding numbers and sites; explore potential to increase habitat base.	High Concern species at continental level. Population declines in major southeastern portion of breeding range. Endangered or other listed status in KY, IL, TN.	Not clear, possibly pre-1900 or current	1470 pairs	Variable	1
Black-crowned Night-Heron	Moderate	Explore potential to expand habitat base.	Endangered or Threatened status in KY, IL, IN and TN.	Not clear, possibly 1900 or 1950s.	> 875 pairs	Increasing	2

Species	***Priority[1]***	***Conservation or Management Objective***	***Justification for Objective***	***Benchmark Timeframe***	***Breeding Population Estimate[2]***	***Breeding Population Trend[2]***	***Area Importance[2]***
Yellow-crowned Night-Heron	High	Undertake surveys, research and assessment of bird-habitat relationships, especially interrelationships with crayfish populations and water quality as basis for conservation recommendations.	Endangered status in KY, IN and OH; dependent on wetlands and crayfish in this BCR	Possibly late 1800s, needs more research	< 1725 pairs	Declining	2
Yellow Rail	High	Increase habitat base for migrants	Migrant habitat important as entire global population passes through US during migration.	Pre-1900 or pre-1970s, based on Colorado Marshbird Workshop, 2001, C. Conway.	NA	NA	NA
Black Rail	High	Prioritize habitat and areas used during migration	Endangered status in several states and provinces in UMVGL; dramatic declines associated with wide-spread wetland habitat loss.	Not clear, possibly 1900-1920s, or earlier	NA	NA	NA
King Rail	Highly Imperiled	Support / establish monitoring protocols at state and provincial levels to assess population status and develop population objectives. Restore large areas of shallow grassland/wetland complexes in potential or recorded use areas.	Endangered in most states and provinces in UMVGL; large declines in the past 30 years in northern part of range, mostly due to wetland loss.	Not clear, possibly 1900 or pre-1970s; Colorado Marshbird Workshop, 2001, C. Conway.	NA	NA	NA
Least Tern	High	Recovery Plan Population Goals: Lower MS = 2200-2500 adults; AR River System = 800 adults (split goal of 1600 adults between BCRs 22 and 24); Red River = 300 adults. Update Recovery Plan, revisit Recovery System, form Recovery Team with possible focus on habitat objective and water level management rather than population objective; maintain average fledging success of 0.7.	Highly Imperiled status warrants conservation focus. Because species moves around a lot and habitat varies, shift focus to habitat and productivity. Recovery Plan is not recent and needs updating.	Pre-1900	NA	NA	1

1. Unless otherwise noted, concern rankings are based on conservation priority. M = Management Priority

2. NA = Not available